

A New Cowrie (Mollusca : Gastropoda) from West-Central Philippines

BY

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(Plate 15; 1 Textfigure)

The renewed general interest in malacology has been worldwide in scope in recent years, but my attention has been drawn in particular to a study of the Philippine *Cypraea*. Aside from Australasia, there is no area known to have a more varied representation of this genus. Therefore, it was with eager curiosity that I followed personal accounts of the dredging and diving progress of the Palawan Expedition in 1962.

The Palawan Expedition was part of a continuing operation consisting of many short runs and a few longer voyages in two vessels converted by their owner, Mr. James E. Norton of Manila, for the purpose of collecting marine specimens. One of these is a 56-foot U. S. Navy landing barge (LCM-14) converted to a semi-pleasure craft; the other is the M/V *Miss Cabalea*. This paper will deal only with that part of the enterprise occurring in May 1962 — an extended trip to the southern part of the Philippine Islands in the vicinity of Palawan. Members of the party on this particular segment of the expedition were Mr. and Mrs. James Norton and their two children, Mr. Fernando G. Dayrit, and Mr. Pedro de Mesa, all of Manila; Mr. Robert Lee of Honolulu; and for a portion of the trip, Mr. Phillip Clover, presently stationed in Japan with the U. S. Navy.

After returning to Manila and roughly sorting the material collected on their trip, Mr. Dayrit sent me a specimen of an unfamiliar species of *Cypraea* for identification, with the comment that he and Mr. Norton had heretofore seen nothing like it in local collections. Searching through my own collection, I found superficial similarities in several species, though no known form was exactly like it, and I was unable

to furnish a positive identification. I then requested additional material for study and soon received eight specimens from Norton and Dayrit, and a pair that had been collected by Mr. Lee. I am most appreciative of the willing cooperation of all three men, as the total number of 11 specimens made it possible to determine that the species differs sufficiently from other known Philippine forms to merit specific distinction. It is my understanding that two additional specimens in alcohol still remain in Mr. Norton's possession, to be studied later on by an expert in cypraeid anatomy.

All of the shells of the new species were found by diving in shallow water (three to six feet deep) at the islands of Marily, Demang, Batunan, Inlulucot, and Cagbatan. These five tiny islets are situated within an area less than 20 miles square in Coron Bay, near a larger island, Busuanga, of the Calamian Group which lies to the north of Palawan (see map, Textfigure 1). In all cases, the areas were very rocky and full of living coral; the cowries were found living in crevices, under and on top of rocks, and in the coral itself. Sharing the same habitat were *Cypraea lynx* Linnaeus, 1758, *C. moneta* Linnaeus, 1758, *C. erosa* Linnaeus, 1758, *C. arabica* Linnaeus, 1758, *C. isabella* Linnaeus, 1758, *C. ovum* Gmelin, 1791, *C. cribraria* Linnaeus, 1758, *C. errones* Linnaeus, 1758, *C. carneola* Linnaeus, 1758, and *C. vitellus* Linnaeus, 1758.

The new species has probably not been previously recognized because of the inaccessibility of its habitat to persons interested in collecting shells; it was only through a special effort such as the diligent searching by Mr. Norton's party (which from time to time included native Moro divers living in the vicinity where the collecting

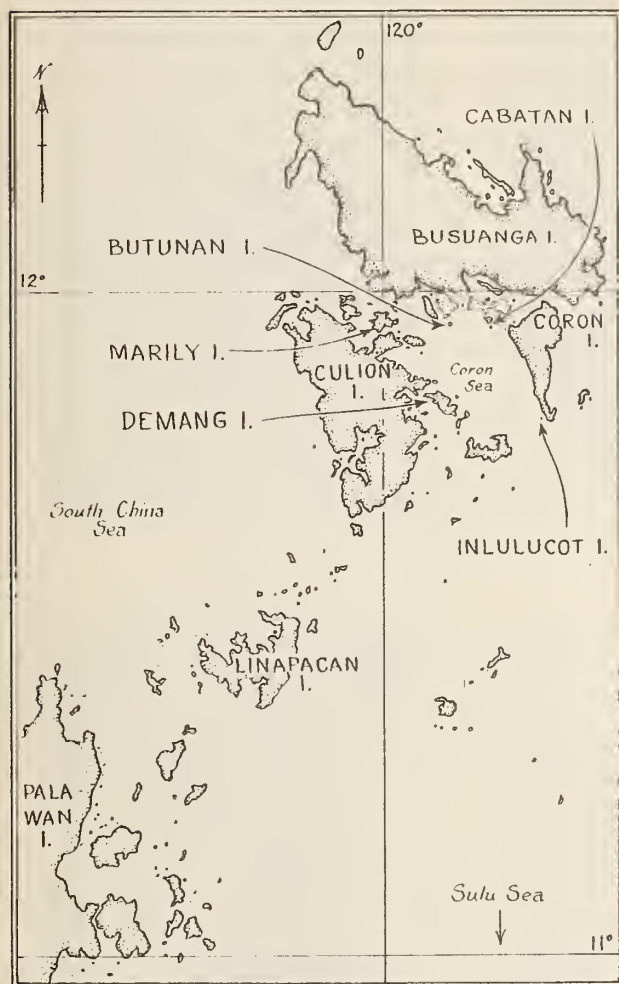


Figure 1

was being done) that it has come to light. At the present time it is not known how far its range may extend, nor how plentiful it may be within that range. The 13 specimens mentioned here are all that are known to this date.

It gives me great pleasure to honor Mr. Dayrit for his extensive work with the Philippine marine shells by naming this new species for him.

Cypraea (Blasicrura) dayritiana C. CATE, spec. nov.

(See Plate 15, Figures 1, 1a, 2, 2a)

Shell short, humped adapically, pyriformly ovate, narrow and constricted anteriorly; base convexly flattened, sides rounded, right and left margins smoothly thickened; aperture fairly

straight, narrow, curving sharply left adapically; both terminals produced, front collar broadened, posterior collar more open than usual. Teeth strong, numerous, reaching to both margins, their number about equal on both lips, at least one usually bifid on the columella. Median teeth traverse the fossula adaxially, strongly in front, more or less so in its entire length; terminal ridge rounded and parallel with aperture. Dorsal and marginal inductura smooth, glossy; teeth, interstices, and base dull; apical area cratered around the nucleus; first two and a half whorls are intense brownish black, abruptly changing to the pale creamy white of the basic shell color. Dorsal surface thickly, nearly solidly, flecked with varying intensities of chestnut brown; margins, base, and teeth cream, interstices deeper in color. There is no mantle line.

The type locality is Coron Bay, Calamian Group, north Palawan, Philippines (11° 55' N. Lat., 120° 05' E. Long.). The holotype is deposited in the type collection of the National Museum of the Philippines, Manila, and bears the catalog number NMCO-6766. Paratypes are variously in the collections of Norton, Lee, Cate, and the National Museum, Manila.

Cypraea dayritiana resembles, among other members of the subgenus *Blasicrura* s.s., *C. interrupta* Gray, 1824, *C. quadrimaculata* Gray, 1824, *C. pallidula* Gaskoin, 1848, and *C. pallidula luchuana* Kuroda, 1960 (see Plate 15, Figs. 3, 3a), in that these all possess the intense brownish-black nuclear apex.

The new species is of a solid appearance, swelling on both sides, rising toward the middle, humping obtusely adapically, forming a steep incline to the rear with a more gradual incline anteriorly.

In comparison with the above-named species, *Cypraea dayritiana* seems probably more closely related to *C. pallidula luchuana*, though differing importantly in many ways. In *C. dayritiana* the teeth are less numerous and much longer; the base is characteristically dull instead of glossy; it is smaller, more humped and pyriform, whereas *C. p. luchuana* is larger, flatter, and more narrowly elongate; the coloring in *C. dayritiana* is deeper, the dorsal pattern more dense; and it lacks the mantle line usually present in *C. p. luchuana*. Subadult shells of *C. dayritiana* possess four broad brownish bands equidistantly spaced across the dorsum; this character is more or less common in most immature *Cypraeas* but seems quite pronounced in this species.

Cypraea dayritiana differs from *C. pallidula* by the absence of heavy perpendicularly interrupted dorsal bands and by being pyriform instead of cylindrically elongate; from *C. interrupta* by the lack of obliquely interrupted bands and by being pyriform instead of cylindrically elongate; from *C. quadrimaculata* in that it is a smaller species, it lacks the four black spots characteristic of *C. quadrimaculata* (two anteriorly and two posteriorly), and by its darker, denser dorsal coloring.

Cypraea coxeni Cox, 1873, the only other species assigned by Schilder and others to this subgenus, lacks the distinctive dark apical spot. *Cypraea dayritiana* might also be considered to be closely related to *C. coxeni*, but it differs in the following respects: it is a smaller, more bulbously pyriform shell; it lacks the high, heavy marginal callus and a heavy brown dorsal coloring; it has a dull base and the black apex.

Key to the Species of *Cypraea* of the Subgenus

Blasicrura s. s.

1. Adult shell with four black spots, two anteriorly and two posteriorly; base dull; labial and columellar teeth extending about halfway to the margins; tooth count (based on ten specimens): 17 to 21 (mean 19.2) labial; 17 to 21 (mean 18.6) columellar *Cypraea quadrimaculata* Gray, 1824

- 1a. Adult shell with at most two dark apical spots 2
2. Adult shell with more or less distinct transverse dorsal bands 3
- 2a. Adult shell never with transverse dorsal bands 4
3. Transverse dorsal bands obliquely interrupted; base glossy; labial and columellar teeth extending approximately halfway to the margins; tooth count (based on nine specimens): 18 to 24 (mean 22) labial; 16 to 22 (mean 18.8) columellar *C. interrupta* Gray, 1824
- 3a. Transverse dorsal bands perpendicularly interrupted; base glossy; labial and columellar teeth extending approximately halfway to the margins; tooth count (based on 18 specimens): 15 to 21 (mean 18.6) labial; 14 to 17 (mean 15.8) columellar *C. pallidula* Gaskoin, 1848
4. Shell with mantle line; dorsum with faint light-brown spots; base glossy; teeth extend less than halfway to the margins; tooth count (based on six specimens): 16 to 18 (mean 17.5) labial; 15 to 18 (mean 17.2) columellar *C. pallidula luchuana*
- 4a. Shell without mantle line 5
5. Base of shell glossy; dorsum with numerous, relatively large, reddish-brown, confluent spots; labial and columellar teeth extending approximately halfway to the margins; tooth count (based on 12 speci-

Table 1

Specimen	Length (in millimeters)	Width	Height	Dentition		Island where collected	Depth in feet	Collector	Collection
Holotype	15.1	10.0	8.0	14	14	Marily	6 ¹	F. Dayrit	N. M. Philipp.
Paratype 1	19.5	12.8	10.2	16	17	Demang	5 ²	J. E. Norton	J. E. Norton
Paratype 2	15.1	9.7	13.0	15	13	Demang	5 ²	J. E. Norton	J. E. Norton
Paratype 3	20.0	12.8	9.8	17	15	Inlulucot	7 ³	J. E. Norton	J. E. Norton
Paratype 4	17.1	10.9	8.6	17	15	Inlulucot	12 ³	J. E. Norton	J. E. Norton
Paratype 5	17.4	11.1	9.0	14	14	Cagbatan	6 ⁴	Robert Lee	Robert Lee
Paratype 6	14.5	9.1	7.1	15	12	Deinang	7 ²	Robert Lee	Robert Lee
Paratype 7	17.6	11.4	9.3	16	17	Cagbatan	6 ¹	F. Dayrit	N. M. Philipp.
Paratype 8	15.8	10.0	8.2	15	16	Batunan	3 ² 5	F. Dayrit	N. M. Philipp.
Paratype 9	15.5	10.3	8.2	15	13	Batunan	3 ² 6	F. Dayrit	N. M. Philipp.
Paratype 10	15.1	9.3	7.8	15	13	Cagbatan	6 ¹ 6	F. Dayrit	C. N. Cate

N. M. Philipp. = National Museum of the Philippines

¹ rocky, living corals, in rock crevices

² under and on top of rocks in shallow water

³ rock and sand bottom

⁴ found between dead seaweed and other sea plants

⁵ subfossil

⁶ dead specimen



Figure 1



Figure 2

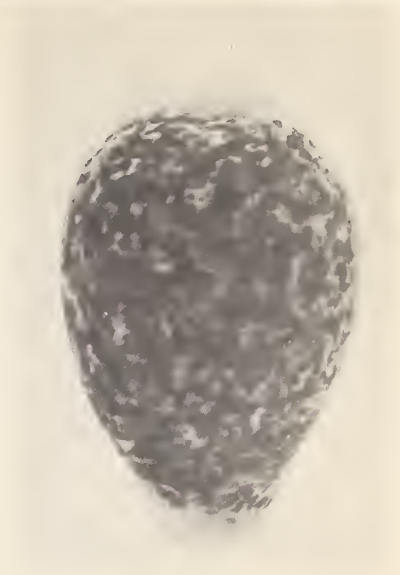


Figure 3

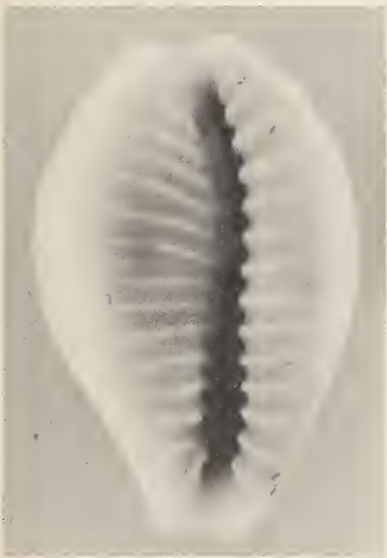


Figure 1 a



Figure 2 a



Figure 3 a

Dorsal and Ventral Aspects of

Cypraea dayritiana C. CATE, spec. nov., and *Cypraea pallidula luchuana* KURODA, 1960

Figure 1, 1 a: Holotype of *Cypraea dayritiana*

Figure 2, 2 a: Typical *Cypraea pallidula luchuana*

Figure 3, 3 a: Paratype No. 3 of *Cypraea dayritiana*